

**Prüfungsordnung für den Master-Studiengang Chemie
an der Fakultät für Chemie und Biochemie der Ruhr-
Universität Bochum
vom 29.Juni 2009**

Aufgrund des § 2 Abs. 4 und des § 64 Abs. 1 des Gesetzes über die Hochschulen des Landes Nordrhein-Westfalen (Hochschulgesetz - HG) vom 31. Oktober 2006 (GV.NRW. S. 475), hat die Ruhr-Universität Bochum die folgende Prüfungsordnung als Satzung erlassen:

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I. General Regulations

§ 1

Objective of Master Examination

The Master Examination forms the second step of the university degrees qualifying for work in chemistry related professions. It is based on and follows a university Bachelor Degree. The Master Examination ascertains that the candidate has obtained an overview over advanced topics of the field and their scientific connections and that she/he is able to apply scientific methods and techniques independently. In addition, the candidate has acquired the detailed knowledge of the field necessary for the transition to typical working environments.

§ 2

Expected Course Duration and Course Beginning

The master course program is a consecutive program. The expected program duration is 4 semesters including the master thesis. The course program may be started in winter or in summer semester.

§ 3

Modularization and Assessments

(1) The Master Course Program Chemistry consists of modules according to attachment 1. Modules are based on assessments according to §7, clause 2, lectures with accompanying exercises, and the master thesis.

(2) In general, lectures and accompanying exercises are assessed by graded end of term exams, practicals and seminars by graded work assessments. Work assessments may be composed of several partial assessments.

§ 4

Due Dates

(1) All assessments and examinations are carried out during the course of studies. With respect to contents, all assessments but the master thesis are assigned to single courses. The course program, including the examinations and work assessments, has to be organized in a way that the master examination can be completed within the anticipated program duration.

(2) Examinations and work assessments should be completed within the semester that is assigned to the respective course according to attachment 1. If the admission requirements for a course are fulfilled, assessments may also be completed before the assigned semester.

(3) The last opportunity to pass the respective examinations and work assessments is the first examination date two semesters after the semester assigned to the course according to the course program (attachment 1). If the candidate does not participate in the examination by that date, the assessment will be graded as "nicht ausreichend" (5.0, "fail"). This failure will not hold if the student cannot be held liable.

(4) There are three opportunities to participate in an end of term examination per year. The first is given within three weeks after the lecture period, the second within three weeks before the next lecture period, and the third within three weeks before the lecture period after next.

(5) The candidate should be informed at the beginning of the course on the number, the type, and the dates of the required assessments. Dates of end of term examinations have to be announced at minimum three months in advance at the public blackboard of the examination office.

(6) In case of a well-founded application, the examination board may extend the due dates defined in clause 3. The due date has to be extended if the candidate is not able to participate in examinations or work assessments in the expected way or time due to a prolonged physical or mental disability. The examination board may allow to replace these assessments by equivalent assessments of different form. The examination board may ask

for a doctors certificate. In doubtful cases the certificate of a public health office may be asked for.

(7) With respect to legal safety regulations, Clause 6 is also applicable in cases of pregnancy or of claims concerning the maternal protection law, educational time, or home care of close relatives. These claims have to be indicated and made plausible to the examination board in due time.

§ 5

General Admission Requirements

(1) Completion of the Master Course Program Chemistry is only acceptable for students that prove

- a) A completed bachelor degree in chemistry at a German university.
- b) A completed equivalent bachelor degree at a non-German university. The examination board will decide on the equivalency of the degree in question.
- c) In case of a well-founded exception an equivalent degree in another field of natural sciences.
- d) Proof of assessments that are equivalent to a bachelors degree according to § 17 clauses 2 and 3.

In cases b) - d) the examination board may demand additional requirements.

(2) A counselling interview on the structure of the Master Course Program and the selection of focal point topics is required for the admission to the Master of Science program.

(3) Admission to the Master Course Program in Chemistry is only acceptable for candidates that prove a qualified degree in one of the course programs listed in clauses 1 a) to 1 d). A degree is qualified if the grades are "gut" (2) or better according to the German grading system.

(4) If a candidate is unable to prove credit points for one or several of the advanced practicals in Inorganic Chemistry, Organic Chemistry, Physical Chemistry, or the focal point topic, the head of the examination board will ask for a statement of one of the professors of the respective field. Based on these statements the head of the examination board will decide on the admission to the Master Course Program in Chemistry. In general, admission requires positive statements.

(5) In case of special circumstances (e.g. time for child care, extended illness) the candidate may be admitted independently of his/her grade. The same holds for special academic reasons. Potential academic reasons are: the grading of the bachelor thesis with „gut“ or better, an average grade of „gut“ or better for the courses in the 5th and 6th semester of the Bachelor Course Program, and a duration of study according to the Course Program. In these cases the head of the examination board decides on the admission based on the statements of two professors that are determined by the examination office.

§ 6

Admission to Work Assessments and End of Term Examination

(1) In general an examination or a work assessment follows the visit of the respective course.

(2) The admittance to any end of term examination requires the registration of the candidate with the supervisor of the respective course. The registration procedure will be announced by the supervisor at the beginning of the course. The minimum registration period is 28 days and must allow registration up to 7 days before the examination. Within the registration period, the candidate may cancel her/his registration.

(3) In case of practicals, a registration with the instructor of the practical is required. The registration procedure will be announced by the instructor via notice on campus. The minimum registration period spans 28 days. If possible, the student may cancel his/her registration up to the start of the practical.

(4) For some practicals, admittance requirements exist that are listed in attachment 1.

(5) Admittance to an end of term examination or work assessment may only be prohibited if

1. the requirements according to clauses 2-4 are not fulfilled or
2. required documents are missing or
3. the candidate takes part in an examination procedure of an equivalent course program at another university with the exception that the examination board has agreed on this examination procedure.

(6) The admission to an experimental assessment (e.g. as part of a practical) may be suspended if the knowledge required to properly and safely carry out the experiment is lacking. In such a case the supervisor should to his best effort provide alternative dates so that the suspended assessment may be completed within the same course.

§ 7

Definition of Examinations and Assessments

(1) Examinations have to be carried out in form of

- a) oral examinations (§ 8) and/or
- b) written examinations or other written contributions (§ 9).

(2) Work assessments are in the form of :

- a) a colloquium and/or
- b) a seminar contribution (§ 10 clause 1) and/or
- c) a written report (§ 10 clause. 2).

(3) The examiner may change the type of examination for a particular course uniformly for all dates according to § 4 clause 4. The change has to be published on the blackboard in the deanery within three weeks after the start of the course.

§ 8

Oral Examinations

(1) In oral examinations, the student shall demonstrate basic knowledge appropriate to the expected study progress and the ability to realize connections between different parts of the studied field and to rank special problems accordingly.

(2) Individual oral examinations are e.g. carried out by two examiners or by a single examiner accompanied by a knowledgeable observer.

(3) The minimum and maximum durations of an individual oral examination are 20 and 45 minutes, respectively.

(4) The essential topics and results of the examination have to be recorded in a written protocol. Following the examination, the result of the examination has to be disclosed to the student.

(5) Students that will be examined for the same course at a later date have the opportunity to attend the examination as a spectator under the conditions that enough space is available and the candidate does not veto. This admission does not hold for the determination and announcement of the gradings.

§ 9

Written Examinations and Other Written Contributions

(1) In written examinations and other written contributions, the student shall prove that, based on the required fundamental knowledge and with established methods of the field, she/he is able to solve problems and to discuss topics within a limited time and with limited tools.

(2) Written examinations and other written contributions are graded by a single examiner. In case of a formal objection, they have to be graded by two examiners. The final grade will be obtained as mean according to §11, clause 1.

(3) The examination board defines time limits for the grading of the written examinations. The result of the examination shall be disclosed to the student at latest three weeks after the examination.

(4) Written examinations last between 90 und 120 minutes.

(5) The instructor may award bonus points for active participation in the exercises. Bonus points are accountable in written examinations. The points awarded to a candidate have to be disclosed to the student at latest 7 days before the examination date. The total of bonus points must not exceed 10% of the total of points achievable in the written examination. The procedure for obtaining bonus points must be agreed on by the examination board. Awarded bonus points will expire at the beginning of the semester after next.

§ 10

Seminar Contributions and Written Reports

(1) Seminar contributions are work assessments with respect to a larger topic that are presented by a student or a group of students in form of a talk or an elucidated graphical presentation in front of the seminar audience. The contributions are graded by the seminar instructor as examiner. The assessment must be documented in the form of a written protocol.

(2) Written reports in German or English shall sum up the essential facts, interconnections and interpretations related to topics studied, e.g. in a course or research practical. The assessment of written reports has to be documented by the examiner within the report in a comprehensible manner.

§ 11

Grading System, Formation and Weighting of Grades

(1) The grades for individual assessments are determined by the respective examiner. The following grades are available:

1 = sehr gut (very good)	=	excellent performance;
2 = gut (good)	=	considerably above average performance;
3 = befriedigend (satisfactory)	=	average performance;
4 = ausreichend (adequate)	=	a performance which still meets the requirements despite weaknesses;
5 = nicht ausreichend (fail)	=	performance which no longer meets the requirements due to substantial weaknesses.

(2) For a more differentiated assessment of the examination performance, individual grades may be lowered or raised by 0.3; the grades 0.7, 4.3, 4.7 and 5.3 are not permissible.

(3) The average grade for the Master Course Program is formed from the sum of the individual module grades weighted by the respective credit points (CP) according to attachment 1 divided by the total number of credit points.

(4) In the formation of the average grade only the first decimal will be considered, all other decimals will be deleted. The following average grades may be achieved:

average up to 1.5	=	very good
average from above 1.5 to 2.5	=	good
average from above 2.5 to 3.5	=	satisfactory
average from above 3.5 to 4.0	=	adequate.

§ 12

Pass and Failure of Examinations and Work Assessments

(1) An end of term examination or a work assessment is passed if it is at least graded „ausreichend“ (adequate). A Module is passed, if all respective examinations are passed

(2) In case the first attempt to pass an end of term examination or work assessments has not been undertaken at the due date defined in §4, clause 3, this assessment is graded „nicht ausreichend“ (fail). This does not hold if the candidate cannot be held liable.

§ 13

Repetition of Examinations and Work Assessments

(1) If an examination attributed to a lecture is failed at the first attempt it may be repeated up to three times according to the time limits given in clause 2. After the fourth attempt the right to participate in any further assessment expires. The examination is irrevocably graded "nicht bestanden" (fail).

(2) If an examination attributed to a lecture is failed at the first attempt it has to be repeated at the next examination date offered. However, the candidate may cancel the registration once without justification. The cancellation has to take place up to seven days before the examination.

(3) In case of a failure in a work assessment, the work assessment can be repeated once in the following year of studies. Afterwards the right to participate in any further assessment expires. In case of a repetition of practicals and work assessments passed, partial assessments will be accounted for.

(4) An end of term examination related to a lecture that has been passed at the first attempt may be repeated within one year to improve the grade. The better grade is valid.

(5) After passing the Master Examination (§15, clause 1) and issuing of the documents (§20, clause 1) all pending assessments are terminated.

§ 14

Assignment, Delivery, Grading, and Repetition of the Master Thesis

(1) The master thesis in German or in English shall show that the candidate is capable to independently treat a chemical problem using scientific methods within a given time. The thesis should be completed in the chosen focal field. The size of the thesis should not exceed 100 pages.

(2) The master thesis may be supervised by any professor, honorary professor, junior professor, or assistant professor (Privatdozent) who is participating in teaching. The examination board may permit exceptions. If the thesis is supervised by a senior scientist the responsible professor has to agree. If the master thesis will be carried out at an institution outside the university, the examination board in chemistry has to agree. The candidate may suggest a suitable topic for the master thesis.

(3) The topic of the master thesis is assigned by the head of the examination board on application by the candidate. The time required to complete the master thesis is 6 months, counted from the date of issuing the topic. The topic of the master thesis and the assignment date have to be protocolled. The topic can be rejected only once within two months after assignment. In case of a justified request the examination board may extend the working time by at most six weeks. The examination board may permit exceptions.

(4) The master thesis has to be submitted to the examination board in the form of two printed copies and electronically; the submission date has to be recorded. When submitting the thesis, the candidate has to affirm in written form that he/she has performed the work independently, that he/she has used no other means and sources as those stated in the thesis, and that all sources have been cited properly. In case of out of time submission of the master thesis the thesis will be graded "nicht ausreichend" (fail, 5.0).

(5) The master thesis has to be graded by two examiners independently in written form. One of the examiners has to be the supervisor of the thesis. The second examiner will be assigned by the head of the examination board. The thesis is graded according to §11, clause 1. The final grade will be obtained as an arithmetic mean according to §11, clause 1. In case the difference of the two grades exceeds 1.0 or in case the average grade is larger than 4.0 a third examiner will be assigned by the head of the examination board. In that case, the final grade will be obtained as an arithmetic mean of the two better grades according to §11, clause 1. The master thesis can only be graded "ausreichend" (adequate, 4.0) or better, if at least two grades are „ausreichend“ or better. The third assessment does not apply if both primary grades were „nicht ausreichend“ (5.0).

(6) The grading procedure must not exceed four weeks time.

(7) In case of failure the master thesis may be repeated once. A rejection of the topic according to clause 3 is only allowed in those cases where the candidate has not used this option before.

§15 Master Examination

- (1) The master examination is passed in proving the 120 credit points according to §24, clause 2.
- (2) The master examination is irrevocably failed if a single module is irrevocably failed or
- (3) a master thesis has been graded worse than „ausreichend“ (adequate, 4.0) taking into account a possible second attempt.
- (4) In case the candidate fails the master examination she/he may submit a request to hand out a transcript of records This contains the work assessments and examinations and their grades as well as missing work assessments and examinations. This transcript of records must show that the master examination was not passed. It is handed out on proof that the student has signed off the students register.
- (5) After passing the Master Examination all pending assessments are terminated.

§ 16 Failure, Malicious Fraud, and Violation of Regulations

- (1) In case the student misses a binding examination appointment, or retreats from an examination that has already started or is incapable of completing a written exam in the given time, the examination will be graded „nicht ausreichend“ (fail, 5.0). This failure will not hold if the student cannot be held liable.
- (2) If a candidate resigns from or misses an examination without negligence the asserted reason must be indicated and made plausible in written form at the examination office within one week. In case of an illness a doctors certificate must be presented stating the student was not able to participate in the examination. In doubtful cases the examination office may ask for a certificate from a public health office. The illness of the candidate is treated the same way as the illness of a child raised predominantly by the student. If the stated reason is approved by the examination board, a new examination date will be determined. Existing grades will be acknowledged.
- (3) If illness is given as cause for missing an examination, starting from the second retreat from the same examination a certificate from the public health office is mandatory.
- (4) If the candidate attempts to take influence on the result of an examination or work assessment by means of malicious fraud or usage of unauthorized aids the examination will be graded as "nicht ausreichend" (fail, 5.0). The same holds if the supervisor of an examination excludes a candidate from further participation in the examination because of disturbance of the orderly course of examination. In severe cases the examination board may exclude the candidate from further examinations.
- (5) The candidate may demand within 6 weeks time that decisions based on clauses 2 and/or 3 are reviewed by the examination board. Unfavorable decisions have to be disclosed to the candidate immediately together with an instruction on the right to appeal.

§ 17 Accountability of Study Periods, Work Assessments, and Examinations

- (1) Examinations and work assessments are accountable if they were performed at a German university in the same Master Course Program.
- (2) Assessments obtained in different Master Course Programs will be accounted in case of equivalency. Assessments obtained at universities in other countries may be accounted upon request by the candidate if equivalency is ascertained. Equivalency is given if course duration, work assessments and examinations are compatible with respect to content, extent, and requirements to those courses required for the Master Course Program in

Chemistry at the Faculty for Chemistry and Biochemistry at the Ruhr-University Bochum.

Concerning the compatibility equivalency agreements with foreign countries as well as university partnerships have to be taken into account. Equivalency will be assumed if courses were part of an exchange program with the Faculty for Chemistry and Biochemistry as participating partner or part of a mobility program.

- (3) For assessments obtained from state approved distance learning courses clauses 1 and 2 are applicable. Clause 2 is also valid for assessments obtained at other educational institutions.
- (4) The Chemistry Examination Board Chemistry is responsible for the accountability. The examination board may ask faculty representatives for statements prior to the decision.
- (5) If the conditions according to clauses 1 to 3 are fulfilled the candidate is entitled by law to have her/his assessments accounted. The student has to submit all documents required for the decision process. If work assessments and examinations are credited and the grades are comparable or transferable according to the ECTS system (attachment 2), the grades and credit points will be transferred and included in the final master grade. The transferred grades will be marked in the transcript of record. In case the grades are not comparable they will be marked „pass“ in the transcript of records and not considered when calculating the final grade. The decision according to clauses 1-3 will be announced within 6 weeks after submittance of the required documents by the candidate.

§ 18 Examination Board

- (1) To organize the end of term examinations and the tasks assigned by these examination regulations the Faculty for Chemistry and Biochemistry forms an examination board. The examination board is a public authority according to German administrative law.
- (2) The examination board consists of the chair, her/his deputy, and five additional members. The chair, the deputy and two other members are out of the group of professors and junior professors, one member out of the group of senior scientists and two members out of the group of students. The members of the examination board will be elected as well as their deputies by the faculty council of the Faculty of Chemistry and Biochemistry on proposal of the respective group. The term of office will be three years for the members from the groups of the professors and senior scientists, and one year for student members. Reelection is feasible.
- (3) The examination board ensures that the Master Course Program and accompanying assessments are carried out according to the examination regulations. He will also decide on objections against decisions in course of the examination procedure. The examination board will inform the faculty council at least once per year about the development of examinations, the grades obtained, and the duration of study. This report will be published by the faculty in a suitable manner. The examination board may suggest improvements concerning examination regulations and the Master Course Program. For common cases, the examination board may transfer its duty to the chair. This is not valid in case of decisions against objections and the faculty report.
- (4) The examination board is quorate if – besides the chair or its deputy – two additional members of the group of professors and at least two additional members entitled to vote are present. Decisions are made by simple majority. In case of a tie of votes the vote of the chair is decisive.
- (5) The student members are not entitled to vote in the cases of evaluation of work assessments and examinations, the assignment of examination questions and the assignment of examiners and knowledgeable observers.
- (6) The members of the examination board are entitled to observe the examinations.
- (7) The meetings of the examination board are not open to the public. The members of the examination board and their deputies

are obliged to discretion. In case the members are not part of the public administration they have to be obliged to discretion by the chair of the examination board.

§ 19

Examiners and Knowledgeable Observers

(1) The examination board commissions the examiners and the knowledgeable observers. The examiners have to teach in the respective module in the Master Course Program "Chemistry". The group of people from which examiners may be commissioned is laid down in § 65 clause 1 HG (State higher education law). A knowledgeable observer must have at least a master degree in chemistry or an equivalent degree.

(2) The examiners assess the examinations independently.

(3) The candidate may propose examiners for the master thesis. The proposal will be considered favourably, however, it will not constitute a legal claim.

(4) The chair of the examination board ensures that the names of the examiners are published on the blackboard in the deanery at least three weeks prior to the examination.

(5) For examiners and knowledgeable observers § 18 clauses 2 and 3 are valid accordingly.

§ 20

Transcript of Records and Master Certificate

(1) After passing the master examination, the candidate receives the credentials within four weeks. The credentials show the topic of the master thesis, its grade, the focal point topic (if applicable), and the final grade of the master examination. In addition, a second sheet (master transcript) displays the modules credited together with the respective credit points and grades. In addition, the graduate receives a Diploma Supplement which explains the scientific level, content, international comparability, and job relevance of the degree.

(2) Simultaneously with the credentials, the graduate will receive the Master Certificate with the final examination date. In this document, the degree Master of Science will be awarded. The Master Certificate will be signed by the chair of the examination board and includes the seal of the Faculty for Chemistry and Biochemistry.

(3) The certificate carries the date of completion of the last assessment.

§ 21

Invalidity of Master Examination

(1) In case of malicious fraud in an examination or work assessment that is only realized after handing out the Master Certificate the grade may be corrected according to §16, clause 3. In severe cases the examination will be graded "nicht ausreichend" (fail, 5.0) and or the master examination will be graded „ nicht ausreichend “ (fail, 5.0). The same holds for the master thesis.

(2) In case that the preconditions for participation in an examination or work assessment were not fulfilled without any liability or attempt of fraud by the candidate and is this fact only realized after handing out the Master Certificate, this deficiency is cured by passing the examination.

(3) In case the candidate deliberately obtained an unjustified end of term examination, the assessment may be graded "nicht ausreichend" (fail, 5.0) and the master examination may be declared as " nicht ausreichend " (fail).

(4) Before a decision according to clauses 1 and 2 the candidate will have the opportunity to explain his/her case.

(5) All incorrect certificates will be withdrawn. If applicable, new certificates will be issued. A decision according to clauses 1 and 2 is excluded starting one year after the disclosure of all relevant circumstances.

§ 22

Access to Examination Documents

Upon request the candidate is granted access to written examinations, the grading documents and examination protocols within one year after completion of the master examination.

II. Examinations and Work Assessments

§ 23

Expected Course Duration, Course Plan and Credit Points

(1) The Master Course Program Chemistry encompasses four semesters of advanced studies including a master thesis with the option to select a focal topic in one of the fields given in § 24 clause 3. The master examination is passed in proving the 120 credit points according to §24, clause 2.

(2) The course program has to be offered and limited in a way that it can be completed in four semesters. The students must have the opportunity to select focal point topics. The ratio of mandatory and elective subjects must be in good balance to independent preparation and study by the student and to participation in additional courses in other Master Course Programs.

§ 24

Subject, Type and Extent of Work Assessments and Examinations

(1) The credit points assigned for a given module according to attachment 1 will be credited if it has been graded „ausreichend" (4.0) or better. The course achievements will be accounted using the European Course Credit Transfer System (ECTS). The master examination is passed in proving 120 credit points including the master thesis.

(2) The modules and attributed credit points are outlined in the master course program (attachment 1). Creditable teaching methods are lectures (dubbed V in attachment 1), exercises (Üb), seminars (S) and research practicals (Pr). The contact times are given in weekly contact hours (SWS). All assessments will be graded.

(3) Out of the 120 credit points required (120 CP)

a) at least 46 credit points (46 CP), but at most 56 credit points (56 CP) should result from modules in one of the focal point topics in chemistry listed in clause 5.

b) Out of the remaining credit points

- at least 13 credit points (13 CP) have to be proven for advanced courses in other fields of chemistry,

- at least 21 credit points (21 CP) have to be proven for mandatory courses in Inorganic Chemistry, Organic Chemistry, and Physical Chemistry as well as the practical „Interfacial Systems Chemistry",

- 30 credit points (30 CP) have to be proven for the master thesis.

c) On request by the student, in well founded cases the examination board may allow exceptions from this procedure and/or the Master Course Program (attachment 1).

(4) The examinations and work assessments in the focal point topic shall introduce the candidate to research in the field.

(5) The following focal point topics are selectable:

- Analytical Chemistry,
- Inorganic Chemistry,
- Biochemistry,
- Organic and Bioorganic Chemistry,
- Physical Chemistry,
- Technical Chemistry,
- Theoretical Chemistry.

In addition, other fields in chemistry or combinations including courses held at other faculties in natural sciences are selectable if a sufficiently broad course program exists. These focal point topics have to be agreed upon by the examination board in chemistry and to be published at the blackboard in the dean's area.

If at least 46 credit points (46 CP) of a focal point topic can be proven this focal point will be indicated in the credentials and in the master transcript.

(6) At least 45 credit points (45 CP) have to be proven for research practicals: 6 credit points for the mandatory practical „Interfacial Systems Chemistry“ and at least 39 additional credit points (39 CP) for freely selectable in-depth practicals and the specialization.

(7) In general, the end of term examinations related to the mandatory courses in Inorganic Chemistry, Organic Chemistry, and Physical Chemistry are held in the form of written examinations, other assessments of selectable modules in the form of oral examinations.

(8) The examinations and work assessments and the corresponding credit points are listed in attachment 1.

§ 25 International Organization

(1) The course achievements will be accounted using the European Course Credit Transfer System (ECTS).

(2) Course language is English.

(3) Assessments may be answered in German or in English.

(4) If agreed upon by the examination board, In well-defined cases elective courses may be held in German.

§ 26 Master Degree

After proving the 120 credit points (120 CP) required according to attachment 1, the degree "Master of Science" ("M. Sc.") will be awarded.

III. Final Clauses

§ 27 Scope

These examination regulations are applied to students inscribed to the Master Course Program „Chemistry“ of the Ruhr University Bochum starting from winter semester 2009/2010.

§ 28 Effectiveness and Publication

(1) These examination regulations come into effect on October 1st, 2009.

(2) These examination regulations will be published in the Amtlichen Bekanntmachungen (AB) of the Ruhr-Universität Bochum

Bochum, 29. Juni 2009

Der Rektor
der Ruhr-Universität Bochum
Universitätsprofessor Dr. Elmar Weiler

Attachement 1

Master Course Program Chemistry

The following Course Program is valid in combination with the examination regulations of the Master Course Program Chemistry of the Faculty for Chemistry and Biochemistry.

(1) The Course Program assumes a program start in the winter semester.

(2) It is recommended to visit the courses in the given order. For some practicals requirements according to clause 3 have to be fulfilled.

(3) The admittance to the following courses depends on the proof of additional credit points (pre-conditions)

<u>Course</u>	<u>Requirement</u>
Specialization	Practical Interfacial Systems Chemistry and in-depth practicals I – III
Master-Thesis	Specialization

(4) Course Labels

Pf = Mandatory

W = Elective

CP = Credit Points

(5) Focal point topics. Approval of a focal point topic requires at least 46 credit points in one of the following fields:

Analytical Chemistry,
Inorganic Chemistry,
Biochemistry,
Organic and Bioorganic Chemistry,
Physical Chemistry,
Technical Chemistry,
Theoretical Chemistry.

In addition, other focal point topics according to §24, clause 3 are selectable.

Focal point topics will only be included in the credentials and the transcript of records, if at least 46 credit points have been achieved. At maximum 56 points may be credited for a single focal point topic including the in-depth practicals and the specialization.

(6) In-depth practicals: parts I – III must have different module numbers.

(7) Freedom of choice: Elective courses may be chosen freely from the full set of Master Course Programs of the Faculty for Chemistry and Biochemistry

Sem.	Modul	V	Ü/S	Pr	Typ	CP					
1. (WS)	Physical Chemistry V	2	1	-	Pf	5					
	Praktical Interfacial Systems Chemistry	-	2	6	Pf	6					
	Elective Course I	2	1	-	W	5					
	Elective Course II	2	1	-	W	5					
	In-depth practical part I	-	-	9	W	8					
26 SWS	Total: 1st Semester	6	5	15		29					
2. (SS)	Elective Course III	2	1	-	W	5					
	Organic Chemistry IV	2	1	-	Pf	5					
	Inorganic Chemistry IV	2	1	-	Pf	5					
	In-depth practical										
	part II	-	-	9	W	8					
	part III	-	-	9	W	8					
30 SWS	Total: 2nd Semester	8	4	18		31					
3. (WS)	Elective Course IV	2	1	-	W	5					
	Elective Course V	2	1	-	W	5					
	Elective Course VI	2	1	-	W	5					
	Specialization.	-	-	15	Pf	15					
21 SWS	Total: 3rd Semester	6	3	15		30					
4. (SS)	Master-Thesis				Pf	30					
77 SWS	Total: 1st – 4th Sem.	18	11	48		120					